



Compact 20A Hot Swap Controller Integrates MOSFET & Current Sensing

MILPITAS, CA – April 27, 2015 – Linear Technology Corporation introduces the [LTC4234](#), a 20A Hot Swap™ controller with integrated MOSFET and current sensing, providing a small footprint hot-plug solution for high density circuit boards. The LTC4234 ensures safe board insertion and removal from live 2.9V to 15V backplanes by controlling an internal N-channel power MOSFET to gently power up bulk capacitors, avoiding sparks, connector damage and system glitches. By integrating the two most critical and largest Hot Swap components—power MOSFET and sense resistor—the LTC4234 reduces design time and saves valuable board area. The internal MOSFET’s safe operating area (SOA) is production tested and specified to ensure a rugged hot-plug solution, especially for space-constrained boards and cards in servers, network routers and switches, solid state drives and industrial systems.

Upon insertion, the LTC4234 waits for connector contact bounce to finish before soft-starting the output. A ground-referenced signal proportional to the load current is provided for monitoring with an external analog-to-digital converter (ADC). The current limit can be reduced from its 22.5A default with a single resistor, affording quick adjustment for dynamic load changes and various applications. For higher current applications, two LTC4234s are easily paralleled for a 40A solution. During overcurrent conditions, the controller limits MOSFET power dissipation by folding back its current limit for an adjustable timeout period. Undervoltage and overvoltage thresholds protect downstream loads against voltages outside a valid window, preventing circuit malfunction and damage.

Specified over the 0°C to 70°C commercial, –40°C to 85°C industrial and –40°C to 125°C automotive temperature ranges, the LTC4234 is offered in a 38-pin 5mm x 9mm QFN package. 1,000-piece pricing starts at \$4.95 each. Device samples and evaluation circuit boards are available online or from your local Linear Technology sales office. For more information, visit www.linear.com/product/LTC4234

Photo Caption: 20A Hot Swap™ Controller with Integrated MOSFET & Sense Resistor


Summary of Features: LTC4234

- Enables Safe Board Insertion Into Live Backplane
- Integrated 4mΩ MOSFET Including Sense Resistor
- Guaranteed Safe Operating Area
- Wide Operating Voltage Range: 2.9V to 15V
- Current Limit for Overcurrent Fault Protection
 - o 11% Accurate at 22.5A Full Scale
 - o Adjustable with Single Resistor
 - o Output Voltage Dependent Foldback
 - o Adjustable Fault Timer
- Undervoltage, Overvoltage & Overtemperature Protection
- Current & Temperature Monitor, Power Good & Fault Outputs
- Output Voltage Soft-Start
- -40°C to 125°C Operating Temperature Range
- 38-Pin 5mm × 9mm QFN Package

The USA list pricing shown is for budgetary use only. International prices may differ due to local duties, taxes, fees and exchange rates.

About Linear Technology

Linear Technology Corporation, a member of the S&P 500, has been designing, manufacturing and marketing a broad line of high performance analog integrated circuits for major companies worldwide for over three decades. The Company's products provide an essential bridge between our analog world and the digital electronics in communications, networking, industrial, automotive, computer, medical, instrumentation, consumer, and military and aerospace systems. Linear Technology produces power management, data conversion, signal conditioning, RF and interface ICs, µModule® subsystems, and wireless sensor network products. For more information, visit www.linear.com

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